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Typhoid Fever—Etiological Factors.*

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As every case of diphtheria and every case of scarlet fever have their origin in some previous case, so every case of typhoid fever has its source in some previous case of typhoid. This case may occupy the same room, or even the same bed with the victim, or it may be upon some remote hillside miles away, as was the case from which resulted the famous Plymouth¹ epidemic.

In the absence of the bacillus typhosus we do not have typhoid. Conversely, without cases of typhoid we do not have the typhoid bacillus.

The route of transmission may be direct, as when a careless nurse infects herself, or it may lead through paths so obscure as to baffle the most expert sanitary detective—"giving a deeper significance to the 'pestilence that walketh in darkness.'" It is this element of the unknown in the etiology of typhoid that gives preventive medicine such a colossal task in combatting a scourge that may well be called the sin of the modern age against sanitation. For we may safely assume that the infecting organism, or at least its parent stock, in every case of typhoid has escaped from some human host. It has been said that

*Read before the Jefferson County Medical Society.

for every case of typhoid some one should be hanged. Whipple³ has more fittingly said that "for every case of typhoid some one should be educated."

Leaving out of consideration unrecognized and unreported cases, we will consider some of the ways in which typhoid infection may spread from a given case. As the bacilli make their appearance in the blood stream at a very early period, (they have been recovered from the blood on the second day of the illness by Widal⁴) we may expect all of the secretions and excretions of the body to be contaminated with them. While this contamination is not a gross one as a rule, except in the urine, the feces and the sputa in lung complications, still every discharge from the body of a typhoid patient should be looked upon as a possible source of infection.

The nurse too may become a menace to those around her, without becoming infected herself. Aside from the fact that she may carry the infection to others on her hands, it is now well known that we have typhoid carriers who have never had the disease themselves. This will be referred to later.

Insects, especially flies, that have access to the sick room, or to discharges from the typhoid patient, frequently carry infection.

The typhoid patient does not cease to be a menace to those with whom he comes in contact until he ceases to harbor the bacillus in his body. This may be and usually is a matter of a few weeks, or he may become a chronic bacillus carrier, and as such may continue to scatter infection for the rest of his natural life.

Etiological factors other than those intimately associated with the patient would not exist but for the fact that sins against sanitary law are continually committed, either by those in whose bodies are harbored the typhoid germs, those who in the capacity of nurse or otherwise, are coming in contact with such persons, or by the public health authorities in failing to provide for the proper disposal of sewage, or the proper protection of public water, milk, or food supply.

The human body seems to be the favored host of the typhoid bacillus. Indeed when thrown upon its own resources, as it were in the world at large, in the soil and in water for instance, the great mass of typhoid bacilli quickly perish. Surviving, however, are a few hardy ones termed by Whipple, "The resistant few," who seem to have the faculty of

resisting hardships of every kind till favored with an opportunity of securing temporary lodgment in a new human host, or in some culture media such as milk, or some of the other foods, that encourage a luxuriant growth.

Water, by common consent among sanitarians, has been given first place as a carrier of typhoid infection. While a great many epidemics have undeniably been traced to infected water, still there is much evidence that attention has been centered on the water supply to the neglect of factors that will in the future be given more attention. However this assertion is not made with the idea of belittling the great advances that have been made in securing better water supplies. Any city that fails to protect from pollution the water shed from which its supply comes, or any city that fails to supply modern filters for its water supply, runs a criminal risk of being overtaken by the fate that befell Plymouth, Pa., in 1885. New Haven, Conn., in 1901; Ithica, N. Y., in 1903, and many other cities too numerous to mention who have sustained disastrous water epidemics of typhoid.

Milk has been too often convicted to render necessary any argument as to its guilt in the causation of typhoid. Still, when we hear the etiological factors in the production of typhoid reeled off on the fingers of the hand, as it were, we are impressed with the abstract character of the ideas thus advanced. Let this be borne in mind: No matter how filthy a milk supply may be, the milk can not convey typhoid unless contaminated with the bacillus of typhoid. On the other hand, let a milk be ever so clean in the ordinary sense of the term, and be contaminated with a few typhoid germs, and you get an explosive outbreak of typhoid among those who use this milk. The subsidence of the milk epidemic is usually as precipitate as was the outbreak, when once the source of contamination is removed. In the Boston Med. and Surg. Journal of July 2, 1908, Harrington reports a typical milk epidemic.

The *musca domestica*, or common house fly, has become well known as one of the most active agents in distributing typhoid infection. This insect has been shown to carry hundreds of thousands of germs on its feet, legs and proboscis. It has also been shown that it carries the typhoid germ in its alimentary canal, from whence it has been recovered after twenty-three days. Numerous epidemics of typhoid have been traced to the fly, and doubtless they always play an important part in

spreading typhoid infection when contaminated discharges are left accessible to them.

The term "chronic bacillus carrier" has been applied to those persons who, though apparently in good health, or showing only the symptoms of a chronic cholecystitis, or urinary cystitis, are found to have typhoid bacilli in their stools or urine. The term "acute carrier" is applied to persons who harbor typhoid bacilli for a short time only. Such persons have been found who had not been ill at all, and yet were distributing typhoid bacilli in their stools or urine.⁶ This should be borne in mind by persons who have nursed typhoid patients. The literature in regard to typhoid carriers has become too bulky to be reviewed in a paper of this scope, indeed the bacillus carrier has ceased to be a curiosity and no longer interests us, except as to their bearing on public health questions. A few references will serve to show how extensive the findings have been by men who have endeavored to throw light on this most interesting and important subject. In the British Med. Journal, Jan. 4, 1908, the two Ledinghams have an interesting article in which they mention the fact that in an insane asylum caring for 250 patients, 13 bacillus carriers were isolated in 1906-7. They also refer to two cases in which Dehler performed cholecystostomy, resulting in a complete clearing up of the stools. Dean, Brit. Med. Jour., March 7, 1908, reports a case of 29 years standing, occurring in a physician; in this case there was no history of others having been infected, but the investigation was suggested by symptoms of chronic cholecystitis. In this case, too, it is observed that the patient's blood had a very low agglutinating power for the typhoid bacilli. This is usually found to be very high, and has been used as an indication for or against further investigation. All of you will recall the famous American case reported by Soper in the Journal of the American Med. Ass'n., 1907, in which 7 families were infected by a woman who had always been in good health, as far as could be ascertained.

After all has been said, that can be said authoritatively as to the etiological factors in typhoid, we must admit that we have not a satisfactory explanation for the wide-spread distribution of typhoid over the civilized world.

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Adenoids in Young Adults.*

By Carl Fox, M. D.,

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The subject of adenoids, as found in early life, has been exhaustively discussed. Still every case presented shows symptoms peculiar to itself. Each could be worked up into a very interesting article. Many a paper has been written on this subject during the last decade or two by the profession, and it is now also being quite frequently discussed by the laymen. So much so that now it is no uncommon occurrence to have an anxious mother bring her child to you with a home-made diagnosis, and it is quite hard, at times, to persuade her that the symptoms are not of adenoids; or, if so, that they are not of sufficient gravity to necessitate operation. Then again we have an equally ardent task at times to gain the consent to their removal where it is quite urgent, due, perhaps, to the ignorance of the consequences.

Adenoid tissue, in infancy, is not an adventitious one; but is normally found in the average child; being of lymphoid character, similar in structure to that of the faucial tonsils. But, owing to its situation and poor drainage, it undergoes frequent enlargement and engorgement, which causes a development of connective tissues, and we have a permanently more or less hypertrophied pharyngeal gland.

The difference in opinions as to the presence of adenoid in childhood and in young adult life, by our different diagnosticians, is due to the

*Read before Southern Medical Association, at Atlanta, Ga., Nov. 11, 1908.

time of examination. Frequently one may examine the post nasal cavity of the patient and find only slight presence of adenoid tissue, that is, when the individual is free from cold; but let a change in atmospheric conditions take place, cold, rainy spells set in, and the patient develops an acute coryza, and if examination of the vault now be made we will find an enlarged mass of spongy tissue; and, if digital examination be made, the finger will come away bloody and perhaps with small granules of adenoid tissue adherent.

Adenoid growths which have been removed and show a tendency to return, or those which do not undergo atrophy and disappear, as is usual, at the age of puberty, have not been as commonly recognized or dealt with by the profession as they should. The average practitioner only knows this troublesome disease and only looks for the symptoms of it in early childhood; but during the past few years, by careful post nasal rhinoscopy, we have begun to recognize this condition as existing in young adults and also even in the older patients. While the symptoms are not as alarming nor as acute as those commonly found among our smaller patients, still they are marked enough to draw one's attention. Many a case of post nasal rhinitis has been given douches and sprays, the post nasal region cauterized and recauterized; the tuberculated bodies greatly enlarged, and hypertrophied, burnt and cut away, when frequently the removal of the small growth situated in the vault of the pharynx would have corrected all the above conditions. It is needless to speak of the deafness that may and does exist quite frequently, due to the presence of this growth, and the abnormal conditions which this growth causes in the nasal passage, as they are common enough and recognized in childhood.

I have seen one case in an adult, a kindergartener, age twenty-six, who would, while teaching or singing become quite husky and at times lose complete power of speech. On examination of the larynx there was no paralysis of the vocal chords, no ulceration—merely a congestion of the larynx which extended upwards, involving the pharynx, and, still further on, the post nasal cavity. On several examinations with the post nasal mirror, I could not find presence of any growth in this locality; but one day, while the young lady was suffering with a severe cold, I was able to make out a distinct growth, which I later on removed, and since then conditions have been entirely benefited.

Another woman, age 35, complained of constant fullness in the ears, a tingling sensation along the course of the eustacian tube, slight deafness, a constant desire to clear the region back of the uvula. I could make out some granular tissues back there and instigated the routine of local application and some constitutional treatment, without results. I later advised removal of this tissue, and afterwards conditions rapidly improved.

Another instance of finding this condition in adults, was in two young nurses, suffering with symptoms of nasal obstruction, mouth breathing and constant desire to clear the throat. While the removal of the growths in these two cases has been so recent that I can not tell the exact results, still I feel confident that there will be a continual improvement. In two other cases in boys of the age of 19, complaining of constant headaches, under careful refraction the eyes were found to be normal, the headaches coming on early in the morning and of a character of that of a restricting band in the upper region of the nose and a fullness behind the eyes, the boys easily tired and were not able to keep their attention fixed to any one thing to any great extent. On examination with post nasal mirror quite a large fibrous mass in each case was found, and the removal of same relieved all symptoms.

One more case which I have now under observation, and which I have operated upon several weeks back, is that of a young lady about 20 years of age, who has a constant tickling sensation in the throat, as she described it, a desire to hack and to remove something foreign from that part of her nose. This condition has been existing for several years—and I may here add that it is strange that all these cases that I have mentioned were found among intelligent people, whose parents, I believe, would have recognized symptoms of adenoids in childhood; and I somehow believe that in all these cases adenoids were perhaps not developed to any great extent until after the age of puberty, as their faces and the condition of the arch and teeth showed not the common results found where such have been present since childhood. This young lady had a general relaxation of the posterior walls of the pharynx, and a dropping of the uvula, which had at some previous time been clipped. I thought that this was perhaps the cause of the feeling of the foreign substance. I saw her for the first time about three weeks ago, and, while I could not make out distinctly with the mirror

adenoid tissues, with the finger I found a well defined mass which I removed, and I believe that the patient will be greatly benefited by same, though at present she still has considerable post nasal secretion.

I have had in the past year some eight more cases of adenoid in adults which submitted to operation, and the results have been quite flattering; but to give a report of each of these would be merely reiterating those already mentioned.

My sole object in discussing this subject tonight is, not to bring anything brilliant before you, but merely to call your attention to the fact that this growth does exist much more commonly in our young adult patients than we have had any idea in the past, and that the mere prescribing for post nasal catarrh of douches and sprays, and even giving tonic treatments, will not accomplish that which our patients seek; and that we should look very carefully for this condition, and, when found, advise their removal, as there is no hope of same undergoing atrophy as it does in childhood.

As to its removal, any of the methods employed in early life can be employed here.

It is seldom necessary to give a general anesthetic, being able to do same under cocaine.

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A Case of Acute Gastric and Duodenal Dilatation Treated by Gastro-Jejunostomy with Recovery.*

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Byron Robinson's case was probably the first on which a gastro enterostomy was done for acute dilatation of the stomach. This operation was done in 1895 on a very much emaciated woman whose stomach was so much dilated as to sag down into the true pelvis; she made a satis-

*Presented at the Baltimore Meeting of the American Association of Obstetricians and Gynecologists, September 22, 1908.

factory recovery and was reported well in 1907—twelve years after operation.

Kehr reported an unsuccessful case in 1899.

Mayo-Robson suggested gastro enterostomy in 1900.

Korte reported a fatal case in 1904.

Remond's case also had a fatal termination.

Tschudy in 1905 did an anterior gastro-enterostomy and relieved the dilatation, but his patient died later of pneumonia.

Heile reported a case in 1907 that recovered after a posterior gastro-jejunosomy. Sixteen days previous to this time he had resected the pylorus for cancer and had sutured the duodenum to the resected portion of the stomach. At the second operation there was no obstruction at this point and no dilatation of the duodenum.

The following case was referred to my service at the Hillman Hospital by Dr. E. H. Sholl of Birmingham, on May 18, 1908.

B. F., a colored female 22 years of age, widow; family history negative. She had pneumonia eight years ago; her general health has always been good; menstruation began at twelve years of age; was always regular and normal; has never been pregnant and as a consequence has no relaxed condition of the abdominal walls.

Two months ago she began to have pain and nausea after eating—some pain in the region of the umbilicus, but most marked in the epigastrium to the left of the mid line. She presses her hand on this point when walking. Appetite poor. Has vomited occasionally. Pain begins a few minutes after eating and soon becomes more marked. Has been troubled with gas distension and acid eructations; this is relieved some by taking soda. She has had some palpitation and pain around her heart. Has been in bed for four weeks and has vomited almost daily; has vomited blood; has had tarry stools; very constipated. Has vomited incessantly for two weeks almost as soon as any food is ingested; this contains considerable bright blood at times. There is marked pain and tenderness on the left side near the tip of the ninth rib; left rectus quite rigid; the stomach apparently not much dilated. She complains of pain under the right shoulder and over the eighth and ninth ribs to the right of the spinal column. For the past few days has been vomiting large quantities of dark greenish fluid.

She had been in the hospital a week before consenting to operation, and in the meantime had been taking an alkaline treatment without any improvement in her condition.

On May 25th I opened the abdomen through the right rectus muscle and found the duodenum dilated to nearly three times the size of the jejunum below where it is crossed by the mesentery; the stomach was somewhat dilated but not in proportion to the duodenum.

I found an indurated ulcer about the size of a silver quarter on the posterior surface of the stomach near the greater curvature about three inches from the pylorus.

I did Mayo's no-loop gastro-jejunostomy, using Moynihan's clamps and linen sutures for both layers. She left the table in good condition.

On account of the duodenal condition I decided to only elevate the head of the bed about eighteen inches. She was given nutrient and saline enemas and strichnin by hyperdermic. She continued to vomit some dark fluid. Two days after operation she was given sterile water and orange juice by mouth. Four days after operation I decided to put her on a bed-rest to see if this would relieve the vomiting; it seemed to make her condition worse; she continued to vomit large quantities of dark fluid at intervals of a few hours (probably the accumulation in the duodenum).

The bed-rest and all elevation was removed and the foot of the bed elevated; she was kept on her side and her stomach washed out once daily for three successive days. At the end of two weeks all vomiting had disappeared and she was taking liquid diet, and in a few days she was out of bed walking about the ward.

She became considerably emaciated, but quickly regained her flesh, and when discharged a month after operation she seemed to be perfectly well and was taking a fairly liberal diet.

When seen four months after operation she had gained 20 or 25 pounds and said she was eating anything she wished and had not had any digestive trouble since leaving the hospital.

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Letter From Dr. Ward.

October 20, 1908.

To the Birmingham Medical Library Association, Birmingham, Ala.:

Dear Doctors—Since writing you from Johns Hopkins, I finished the work I was doing there and have been in London since April. London is as large medically as it is otherwise, so I shall speak of it in a limited way, as I tell you about things in which I am personally interested.

The first three months were devoted to the study of nervous diseases in National Hospital for the paralyzed and epileptic. It has 168 beds and an out patient department, being thoroughly equipped with all modern conveniences for treatment and scientific investigation. Three resident house physician, regisra, pathologist and a visiting surgical and medical staff, are responsible for the work.

Many familiar names in the literature of nervous diseases, either are or have been connected with this institution. Dr. Hughlings Jackson, of whom we think in speaking of Jacksonian epilepsy, is still a member of the consulting staff, and is an interesting figure occasionally seen on the wards. Though the "Almond tree flourishes," he is mentally keen and his words of wisdom are treasured by those fortunate enough to receive them. Sir William Gowers is senior visiting physician. His writings on nervous diseases have long been standard, and he continues

to make new contributions each year. It is my good fortune to have a clinical clerkship in his service. I write the clinical notes, under the direction of the House Physician, of all his cases.

Sir Victor Horsley is at the head of the surgical department. The removal of brain tumors and gasserian ganglia seem as common as appendectomies in ordinary hospitals. One marvels at the ease with which he performs these capital operations; but the mechanics dwindle into insignificance when one notes the accuracy with which he places his finger upon the lesion. The brain cures are done in two stages. In the first stage he removes the bone, and one week later completes the operation. He rarely spends more than half an hour at either stage. He uses chloroform and pure oxygen mixed as an anaesthetic. Very little chloroform after completing the skin flap.

Four afternoons each week, the out patient department is open. All the interesting new patients are shown to visiting physicians. The men in charge of this department are familiar in neurological literature. Risien, Russell, Turner, Taylor, Collier, Batten, Buzzard, Stewart, etc., have their turns.

To the uninitiated, the Biblical like cures in functional neuroses is wonderful. Many of the paralyzed and bed-ridden go out able to skip the rope, after a few weeks stay. Of course, these cures are among the young and not those who have pathological contractures superadded, though many of these are benefited.

At a meeting of the epidemiological section of the Royal Society of Medicine, Sir Frederick Treeves read a paper on the medical work at Panama. He was profuse in his praise of the scientific methods used there. He repeated what I have heard Prof. Welsh say in an address on preventive medicine—"That without the aid of modern medicine Panama canal would not have been a possibility." He warmly commended Col. Gorgas for his personal victory over official opposition and public criticism.

During the present three months, I am dividing my time between nervous diseases and diseases of children. Great Ormond Street Hospital for sick children is a very short distance from the national. I am clinical clerk in Dr. Garrod's ward. When any medical man, who knows anything of London, speaks of diseases of children, Great Ormond St.

Hospital is always thought of. This is a hospital of some three hundred beds, an out patient department and seaside and convalescent homes connected with it. Here such men as Garrod, Still, Hutchison, Paynton, Lane, Waugh, and many others, hold clinics. At present, the wards are filled with rheumatism (joint, heart and chorea), abdominal tuberculosis, meningitis (tuberculous, post-basal, pneumococcal), pneumonia and its complications are just beginning. The diarrhoea and vomiting season is about over.

Pyloric stenosis is claiming its share of attention. There are, at present, three cases in Dr. Garrod's ward. They are not trying to do much with them surgically, but rely upon diet and gastric lavage. The results are not flattering. I have seen both cures and postmortem. Any one who sees a pathological section can not doubt the diagnosis or the disease as an entity.

The out patient department is in handsome new quarters, and is one howling mass of mothers and babies. Here one sees all the diseases and freaks known to children kind. All are classified, labeled, and sent to the proper department. The most interesting, the rare, and the very ill are sent to the wards. The others are treated as out patients. The common contagious diseases are not treated here, except in some small isolation wards for emergency cases.

Doctors naturally ask: "What do I think of London as a place for post-graduate work?" This I shall answer frankly in a few words. If you want "much to do about nothing" and "spoon feeding" you need not come to London. But if you want clinical medicine, there is great wealth of material here, well classified, well handled and properly diagnosed, with a medium amount of instruction. If you can spare six months or a year, and want to do real work on a living patient London is a magnificent place, and is not crowded with willing workers of that particular genus P. G's. In truth, I am delighted, and feel that I am getting value received.

As to opsonic work, it has its friends and foes. I visited St. Mary's Hospital and met Sir Almroth Wright, and saw some of his routine injections, etc. He and his associates are enthusiastically pushing their investigations. It is too big a subject for a casual visitor to have any real opinion, so I offer no criticism.

Just yesterday I had the privilege of hearing the Harverian Oration. This is an annual event of much pomp and ceremony, which takes place in that charmed circle, known as the Royal College of Physicians. A membership in this college is the cherished goal of every medical man in England. They own their own home, which is a classical building on Trafalgar Square, opposite the national art gallery. This building with its massive columns and the statues of Harvey, Sydenham and Linaere is in keeping with its historic surroundings. While I did not break the tenth commandment, I certainly cherished the hope that some day our own medical library association may be in a home of its own.

I am very cordially yours,

15 Tarrington Square, London, Eng.

H. S. Ward.

Medical Expert Testimony from a Judicial Standpoint.*

By Lawrence H. Lee,

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A review of the text writer's opinions, and of the adjudged cases touching this question would extend this paper to limits beyond your patience, and would serve no good purpose. I have deemed it advisable to call your attention to some of the principles of law underlying the presentation of this character of testimony—the reasoning, so to speak, from which we derive the rules now governing the production of this part of evidence. Expert testimony, or as termed by some of the text writers, experiential capacity, is the skill to acquire accurate knowledge, coupled with the power of unbiased statement, as contradistinguished from the sort of capacity which involves the organic powers, moral and mental, necessary to the production of all testimony; and the person who acquires this skill and accurate knowledge is called an expert.

This applies alike to all avocations requiring skill and accurate knowledge. Recognizing this, it follows that upon some matters of evidence accurate knowledge or understanding can not be attained without some

*A paper prepared at the request of and read before the Chattahoochie Valley Medical and Surgical Association at its meeting in July, at Auburn, and later before the Montgomery County Medical Society.

special preparation upon and familiarity with the subject to be inquired about; and hence has been evolved the evidential rule that testimonial statements offered as representing knowledge on that particular subject are not offered from persons not fitted by opportunity, preparation and skill to acquire knowledge upon that subject.

The fitness or skill to acquire this accurate knowledge essential to experiential capacity comes from circumstances, which, for the purpose of this paper, may be broadly termed experience, and includes all the processes necessary to reach a state of fitness to acquire such knowledge upon a given subject. There are three fundamental principles involved in the very nature of this sort of capacity.

1. In every case the capacity is a relative one, that is relative to the topic about which the witness is asked to make his evidential statement; the object being to be sure that the question will be answered by a person fitted to answer it. In other words, the fitness required is a fitness to answer upon the given point. The witness may be fitted to answer upon numerous other matters, and yet wholly unfitted to answer upon the particular point inquired about, and if he be skilled enough to answer upon the point inquired about, it becomes entirely immaterial that he is not skilled upon any and every other matter.

2. It follows from this that there are no fixed class of expert persons in which a witness finds himself and remains permanently. Since experiential capacity is always relative to the matter in hand, a witness may enter or leave the class of persons fitted to answer as he passes from question to question. The distinction depends upon the subject matter, as well as the person, though primarily it is referable to the matter inquired about. So we find it impractical that those possessing expert qualifications of the same general character can be sharply marked off into defined classes. The change of a trifling feature in the general fact may render the competent witness of a moment ago, an incompetent witness. It results that the rules of evidence can not make an accurate classification of topics with reference to experiential capacity, and that to attempt it, would involve numerous divisions and subdivisions, incapable of intelligent conception, and from a legal standpoint of no practical benefit.

3. It is a mistake, having its origin in the opinion rule, to suppose

that an expert must be a person professionally occupied upon the matter to be inquired about. The only requirement is that a witness must be fitted to acquire knowledge on the matter he speaks about, and if thus fitted, it is immaterial whether he acquired his fitness by being professionally concerned in such matters or not. The question is, does he have the requisite knowledge to be competent to speak?

While there is no difference in principle between what may be termed the highest and the lowest expert, either as to the matter or the class, and the single and uniform rule is that every witness must be sufficiently experienced to speak upon the matter inquired about, there are two groups of matters with respect of experiential capacity.

1. That class of matters in which every person of ordinary fortunes in life possesses sufficient experience. The skill in the ordinary use of the senses which develops necessarily in the course of the daily doing for every mature member of society. And in these matters no express preliminary evidence of the possession of such skill is required to be shown.

2. That class of matters as to which it is only by means of some special and peculiar experience, more than is the common possession, that a person becomes competent to acquire knowledge. It is this class of skill or knowledge that cannot and is not assumed for any individual witness, but must be expressly shown. This special skill and experience may have been attained, so far as legal rules go, in any way whatever. All the law requires is that it has been attained. It is possible, however, to group two classes of this sort of experience, which is usually, though not necessarily, found separately—the first so-called “practical experience,” the experience obtained casually and incidentally, yet steadily and adequately in the course of some occupation or livelihood.

3. Systematic training, directed deliberately to the acquisition of fitness, and involving the study of a body of knowledge forming a branch of some science or art. The line between these two, if it can be drawn, has no general legal significance. Each shades into the other imperceptibly. In some instances he may have both, though he does not need both. This applies especially to medical expert evidence. The recognition of these two classes does not violate the fundamental principle of all evidence that every witness whatsoever must be expert in the matter he speaks about. That principle is invariable. The prac-

tical application of the principle is best illustrated by two questions. (1) On a given topic, is general experience sufficient? (2) If not, what sort of special experience is necessary?

The canon now generally accepted as best answering these questions is, "No special experience shall be required unless the matter to be testified to is one upon which it would clearly be presumptuous, under the circumstances of the case in hand, for a person of ordinary experience to assume to trust his senses. for the purpose of his own action in the ordinary serious affairs of life.

The answer to the second question will rarely ever permit of a general rule. The decision must be concrete; that is upon the fitness of the individual, as shown by the circumstances of his experience—and hence, two rules come in as affecting its admissibility. (1) The possession of the required skill or qualification by the person offered must be expressly shown by the party offering him; (2) the fact of such possession must be left to be determined by the trial court.

Having in a general way called attention to the primary rules laid down for the production of medical expert testimony, let us turn our attention to the proper position of the medical expert witness in our judicial system. It follows as a natural sequence from the principles above enunciated that the functions of an expert witness are judicial, or at least, quasi judicial in their nature. In fact, his position, after the court has declared him qualified to speak, is essentially judicial, with the qualification that he is without power to enforce his determinations by judicial process. It is his province to reason concerning facts, to explain their connection one with another, and to draw inferences, and conclusions from them, in other words, he is called upon not only to recount facts, but to interpret and explain them by reference to assumed facts, and to thus become properly speaking, an expert.

Hence, it follows, he must necessarily perform a part of the duties devolving in a legal sense, upon the court or jury. He ranks the coequal of the tribunal itself, in the administration of justice, so far as it relates to his peculiar province and individual responsibility. This is the true conception of the medical expert, and the importance and responsibility which the law thus confers upon him renders his position one of the highest character and calls for the most exact and faithful integrity of purpose and statement, and stamps his testimony as of the highest value. He thus is, or ought really to be, special and advisory counsel to the court and jury—a part of the system for the administration of

justice between man and man, and between the State and its subjects. Such was the conception of the common law when the rules of evidence governing this particular branch of testimony were evolved, and such is the theoretical position of a medical expert now.

Just what the real position is, and just how medical expert testimony is now regarded by the courts is a question difficult to answer. In fact, it is practically impossible to adopt a single theory that would embrace the variant doctrines enunciated by the adjudged cases and the text writers. Some text writers, and perhaps the better ones, and many adjudged cases seem to hold that expert testimony, including of course, medical testimony, is to be considered like any other testimony in the case and tried by the same tests. Others hold that expert testimony is to be received with caution; others that it is entitled to little weight, and still others, among whom is the Alabama Court, that it is entitled to great weight.

When we remember that the science of medicine is empirical and that its theories of yesterday may be the antithesis of the theories of today, we may say that, in a sense, each of the theories are true, although when stated singly they are more or less misleading. And this is true for the reason that expert testimony may relate to facts or to matters of opinion. If it consists of testimony as to facts it is entitled to the same or greater credit and should be measured by the same tests, as are applied to the testimony of ordinary witnesses testifying concerning facts within their knowledge. If it consists of matters of opinion, it is still true that it is entitled to the same credit and to be tried by the same tests applied to the testimony of witnesses, other than experts, testifying to matters of opinion. It is also a mistake to assume that because expert testimony on matters of opinion is to be received with caution that that is equivalent to saying that it is of little weight or value. No general rule can be laid down to the effect that expert testimony is of great or little value. Like other testimony it depends for its value upon a variety of circumstances, all of which rarely ever arise in one case, but which must be looked to as they do arise. These circumstances may be briefly stated to be. The character of the witness for integrity and his freedom from bias; the extent of the witness' knowledge, his opportunities for observation, his skill and experience; if his testimony is based upon a hypothetical question, whether the facts assumed to be true and upon which the opinion is based, have all been proven by the evidence adduced; whether the testimony of the expert

relates to matters of scientific knowledge, or to opinions which are speculative and theoretical in their nature. If the witness testifies to facts of science, to matters of knowledge derived from investigation and experience, or to the necessary and invariable results following from facts stated, his testimony is highly regarded and is given such weight as his knowledge, integrity and skill warrants. If, on the other hand, he testifies to matter of opinion simply, to that which is matter of probable inference, to speculative or theoretical opinions, his testimony is not of equal value and may be entitled to but little weight. Where the expert states precise facts in science as ascertained and settled, or states the necessary and invariable conclusion which results from the facts stated, his opinion is of great weight, but when he gives only the probable inferences from the facts stated, his opinion becomes of less importance, because stating only a probability, and when the opinion is speculative, theoretical and states only the belief of the witness, while some other opinion is consistent with the facts stated, it is entitled to no weight. An observance of this truth by experts in giving testimony; that is, the making of it plain to the court and jury just the character of the statement made, and within which of the above enumerated classes of testimony it falls, would greatly aid in relieving the lay and legal mind of many of the erroneous opinions prevailing in reference to expert evidence.

But before passing to that phase of the subject, and in connection with what has been said above, there are certain principles established for the guidance of juries in the consideration of expert testimony, which are germane to the subject in hand, and that should be noted in connection therewith. First, it is a universal rule in this country that the ultimate weight to be accorded to all testimony is a question left to the determination of the jury, under proper instruction from the court. Second, there is no rule requiring that the jury surrender their judgment to an expert, and give a controlling influence to the opinions of scientific witnesses. Third, nor should the jury wholly disregard the testimony of an expert witness, and make their findings from their own observations; although they may bring to its consideration, in determining the weight to be accorded it, such general practical knowledge as they may possess upon the subject. Fourth, in such cases as the question at issue is of such a nature as to be outside of the realm of the jury's "practical common sense," and their conclusion must in the

very nature of things depend on the testimony of experts, the jury must accept and act upon such testimony just as they accept and act upon the testimony of witnesses stating other than scientific facts. Fifth, its value will, therefore, depend upon the knowledge and experience which the witness has and evinces concerning the matter about which he testifies, his freedom from bias, and the intelligence and fairness of the reasons he gives for the conclusions expressed. Sixth, that the opinions of experts can not prevail over actual facts, and are never to be regarded when they manifestly conflict with established facts. Seventh, expert testimony is of no value when based upon testimony of witness which has been rejected by the court or jury, or upon a hypothetical question which assumes as true facts finding no support in the evidence.

The above observations are based upon the consideration that the circumstances surrounding each case are as near ideal as is practical. That is to say, that the jury trying the cause is of average intelligence, or above; that the court properly rules upon the introduction or rejection of evidence upon which the expert opinion is to be based, that the evidence is true; that the lawyer properly and clearly, without confusion or misleading tendencies, states the question to be answered and that the expert witness is competent to answer—that is possesses the requisite knowledge and skill to give the best possible opinion on the matter in hand. It is a lamentable fact that ideal conditions rarely ever obtain, and I think that in a large measure this is responsible for the variety of opinion among lawyers, doctors and laymen, as to the probable value of expert testimony.

The law can not be so framed as to meet all conditions that arise. Of necessity, the rules of law must be so constructed as to fit the medium of conditions, else it would become so complex and contain so many ramifications from the general rule that it could not possibly be accurately known or applied.

The system prevailing in this country and in England has also had a tendency to lower the value of expert testimony. Here the courts have no control of the selection of experts. The parties call whomsoever they will, and the only duty devolving upon the court and the only power given the court is to determine, in advance of his testimony and of the statement of his opinions, whether or not the witness is competent as an expert. And ordinarily this is shown by the evidence of the witness himself, in stating that he is a practicing physician, or a professor in some branch of scientific knowledge. It is true that the physician or

surgeon or other expert witness, could obviate some of the difficulties here encountered by candidly admitting that as to the particular matter inquired about he is not competent, either from want of experience on that particular subject or from want of inclination to follow in his profession that particular phase. This rarely ever occurs. Why, I leave my hearers to determine. And when we remember that under legal rules the naked fact that one is a practicing physician or surgeon, or is licensed in that calling, rendered him competent as an expert witness, regardless of the amount of study and experience he may have given or has as to the particular matter to be inquired about, we see at once how essential it becomes that the witness be entirely candid in qualifying, or disqualifying as the questions shade.

Under the civil law, and especially under the system now prevailing in Germany and France, experts in medico-legal matters have an assured official position, under appointment from the judicial tribunals, and are not permitted to be selected at haphazard, according to the will or the length of the purse of those who need their services. Under such a system it has been possible for men to be educated up to a high degree of skill and experience in the particular branches of physiological or psychological or physical investigations which they pursue, while with us experts are such for other reasons and by the operation of other causes.

The natural result of the different methods of obtaining medical expert testimony in the two instances mentioned is that in Germany and France, and other places on the continent, expert witnesses command a high measure of respect and honor, while under our system, the weaknesses of human nature are such that the average run of people, the newspapers, the lawyers, and even the courts in some recorded opinions and decisions, have come to express a great want of confidence in medical expert testimony. Another stumbling block in the way of expert testimony is the hypothetical question. In this we find two distinct subjects of testimony—the premises and the inferences and conclusion. If the facts upon which the premises are grounded are known to the witness personally, his inferences and conclusions are valuable and of great aid to the court and jury and are usually so regarded and treated.

If, however, and this very much more frequently happens, the premises rest upon the assumption of facts detailed by other witness, and the conclusions or inferences are to be drawn from facts so assumed, it

becomes confusing and is often misleading. This is especially true when there is a conflict in the testimony from which the facts assumed are to be drawn—when there are two theories advanced as to how the particular matter was brought about. Under such conditions the jury are first confronted with the proposition as to what is the truth of the premises? Did it happen thus, and if so what inferences and conclusions are to be drawn? If it did not happen thus, but happened another way, what is the result? In other words, the jury have not only to ascertain the facts upon which the expert bases his opinion, but whether such facts are true or proven, and if true are the conclusions stated therefrom true. This results in a mixing and confusing of the issues, and often leads to injustice, or rather a failure of justice. And this is brought about very often by the variant shadings given to the hypothesis. Some times this shading will be so fine that the jury does not and can not catch it, and yet it will require of the expert an answer in seeming conflict with a former answer. Some-times the hypothesis is ambiguously put, and is answered without a recognition that it is susceptible of two constructions, and that the expert may take one construction and the court and jury another. So it often happens that there is brought about a seeming conflict where in reality there is none. Here it is that the intelligent and clear speaking expert can be of great service, either by calling attention to the ambiguities, and getting the hypothesis plain, or of making it plain that the questions required to be answered differ in some essential feature from a seemingly similar question already answered. In other words the expert ought always to remember that he is the real master of the situation, and to so conduct himself that his answers and explanations will not seem to the lay and legal mind contradictory and inconsistent. Other defects in the system of procedure might be pointed out, but for the present purposes these already mentioned will suffice.

Having criticised to some extent the judicial procedure as to the production of medical expert testimony, let us turn briefly to some of the criticisms indulged as to the testimony itself.

One cause of criticism is inherent, and can not be removed by any action of ours or of yours. I alluded to it when I remarked in a former part of this paper that medicine was an empirical science. We must all admit that it is not yet an exact science, and that many cases arise

that put many of its accepted truths to rout. Great strides have been made in it during the past few years, and yet its absolute truths are few. Many dogmas of today believed and given out as medical truths are really no more than doctrines or theories which may be abandoned tomorrow. A brief study of the history of medicine and surgery will reveal numerous revolutions in its theory and practice. The only safeguard against this infirmity is for the medical witnesses to frankly avow its existence, and for the tribunals to recognize it and base their judgments as little as possible on what are simply the theories and doctrines of the day. Another cause of criticism may be traced to the natural zeal of the medical witness to magnify his profession and exhibit his learning. This is most often found in the young physician, fresh from the schools and exuberant in their self confidence. They welcome medical problems and are quick to offer solutions. In this respect they are not unlike the young lawyer. And as a result they often state as medical truths their own mere personal theories or opinions instead of the truths tested and approved by the great body of their profession. A kindred cause, and one productive of much of the adverse criticism, is the willingness of medical witnesses of the different schools to cross swords over questions that arise in the trial of cases about which the schools may differ. This is not true in any great measure in this State for the reason that but one school obtains, although that school may differ as to certain matters.

Another cause of complaint is the fear of many medical witnesses that they will lose caste or consideration if they frankly confess they do not know the truth of the matter. Another cause is that too many physicians summoned as medical witnesses rely too much on their general learning and experience, and testify without making any special investigation of the precise matter in controversy. So testifying they are often confronted with phases and questions for which they have no safe answer. If physicians, when summoned, would ascertain, as they ordinarily can, what medical questions are involved, and then make a special study of them and confine themselves to what they find to be the accepted and established medical truths, much of the uncertainty of medical evidence would be eliminated. Other causes are found in the temperament or mental constitution of the witness, but this is no wise different from that of ordinary witnesses. While it is true that the calm, deliberate, unbiased, clearminded, clearspeaking

witness is undoubtedly less rare in the medical profession, the lack of these qualifications or qualities among medical witnesses seem to be considered the more grievous than when found in the ordinary witness. What the reason is I will not here undertake to say, but there is really no good and sufficient reason why it should be so. Another cause is the much debated hypothetical question which has been heretofore adverted to. I will add nothing except to say that if I had to pass upon it I would not require a medical expert to answer one unless he wanted to. Another cause is the so-called partisanship exhibited by the profession. I take no stock in that feature, as it is the observation of all who have given the subject any thought that this occurs no oftener among experts than among the general run of witnesses. It may be said perhaps with truth that it is more often in the lime light than evidence of other character, for the reason that it is usually produced in cases attracting universal attention. This was notably so in the Thaw trial, and this trial together with several others of like interest to the country at large, might be and are cited to prove the rule. They are rather the exception. From my reading of the report of the Thaw trial I came deliberately to the conclusion that two schools were warring for supremacy, and that it was not so much the result of partisanship as a desire that personal views honestly held and entertained might prevail.

It may be stated as a fact that the courts have never intimated in any of the adjudged cases that the truth of medical testimony should be doubted, or that less credit should be given to it than is accorded ordinary facts testified to by ordinary witnesses. The very rules of evidence governing its production show that this is true. The same tests are applied; the same safeguards are thrown around it, and the same credit is given to it.

Other criticism might be noted and indulged, but when brought to its final analysis these same criticisms and strictures may with equal force and consistency be indulged as to all evidence.

From what has been said it will be seen that some remedy is needed, both in the practice and procedure for the production of expert testimony and in the methods employed by the expert witness. What remedy will best meet the requirements of the times is an open question. But it seems that such remedy must come from and be fathered by the medical profession.

Judges and lawyers are necessarily a lot of conservatives.

Rules of law become in time established rules of property and of liberty. A lawyer, whether on or off the bench, approaches with trepidation a change of rules that have been long in use and have been found to serve useful purposes in the past. I think it is of universal recognition that the system of procedure has been productive of bad results, and yet our legislatures have never sought to remedy the defects. This ought to have attracted the attention of the committee of the Bar Association on criminal administration especially.

Of all the remedies suggested the bill recently introduced into the Maine legislature, but which failed of passage, seems to me to come nearer a solution than any other. That you may have the benefit of its provisions for future thought and study I incorporate it in this paper. I do not give it exactly as framed, but have made such changes as suggest themselves as adapting it to our needs. It is as follows:

Section 1. In any case, civil or criminal, in any of the courts having final jurisdiction thereof, when it appears that questions may arise therein upon which expert or opinion evidence would be admissible or would be sought to be introduced, the court or any judge thereof, in vacation, may appoint as an examiner one or more disinterested persons qualified as experts upon the question. The examiner or examiners, at the request of either party, or of the court or judge appointing him, shall make such examination or study of the subject matter of the question as he deems necessary for a full understanding thereof, and such further reasonable pertinent examination as either party shall request. Reasonable notice shall be given each party of physician examinations of persons, things and places, and each party may be represented at such examinations.

Section 2. At the trial of the case either party, or the court may call such examiner or examiners as a witness, and if so called he shall be subject to examination and cross examination as other witnesses. For his time and expenses incurred in the examination and in attending court as a witness he shall be allowed by the court a reasonable sum, to be paid out of the county treasury as a part of the court expenses. The court may limit the witnesses to be examined as experts to such number on each side as it shall judge sufficient for an understanding of the contention of the parties on the question.

Section 3. When upon the trial of a cause in such a court ques-

tions arise upon which expert or opinion evidence is offered the court may continue the case and appoint an examiner for such questions as provided in section 1.

The Clinical Examination of Urine and Gastric Juice by the General Practitioner.

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London, England.

Nowadays, in every branch of medicine, the great importance of accurate clinical investigation is well recognized. While, however, clinical laboratory investigation is pursued as a matter of routine in almost all the medical institutions of the world and also by many private practitioners, yet owing to the tedious nature of many of the processes and the large amount of time necessary for their performance, they are wholly or in part omitted by the vast majority of medical men. Perhaps the factor most responsible for this defection is the unsuitability of the methods in vogue in the hospitals and large laboratories to the capacities of the private worker. A laboratory assistant who makes quantitative estimations in anything from five to twenty specimens is able to employ the necessary time to far better purpose than the isolated practitioner who is working on a solitary specimen, even though the examination may be the one thing needed to assist him in arriving at a proper conclusion with regard to his case. Yet the isolated worker stands in just as much need of assistance of this kind in arriving at a diagnosis as the hospital resident with his well-equipped laboratory.

It is the purpose of the present paper briefly to pass in review certain of the newer methods for the quantitative examination of both urine and gastric juice which have but recently filtered across to this country, and to show that in addition to other merits they possess that of being well within the scope of the daily routine of the general practitioner.

Let us first take the case of albumin in the urine. I wonder were a census on the point to be taken how many general practitioners would be found to possess the ordinary albuminometer of Esbach, and, even

possessing the instrument, how many use it with anything approaching habit? Until quite recently, with the exception of the Purdy tube, this was practically the only piece of apparatus by means of which the amount of albumin present in any sample of urine might be determined with reasonable facility. Doubtless much useful work has been done with Esbach's tube, but it is quite certain that a test which is only accurate for values at or above one-half *pro mille*, and which besides takes 24 hours to complete, falls very far short of the ideal. A much more efficient instrument has lately appeared and is described by its inventor, Dr. H. R. Harrower, in the Journal of the American Medical Association (Vol. LI, No. 7). It consists of a graduated tube and a reagent (phosphotungstic acid, 1.5 grammes; concentrated hydrochloric acid, 5 grammes; and 95 per cent, alcohol, 100 cubic centimeters). One cubic centimetre of urine is diluted with 9 cubic centimetres of distilled water, and this is added drop by drop to the reagent, shaking after each addition until the appearance of a faint white cloud. This denotes the completion of the reaction and the level of the fluid in the tube is read off. It corresponds to the amount of diluted urine which contains one-tenth of a milligramme (0.0001 gramme) of albumin. The percentage is easily reduced, but a table is supplied with the instrument to assist the calculation. This is without doubt a far more practical instrument for both hospital assistant and home worker than the Esbach or Purdy tubes, and some idea of the accuracy of the test may be gathered from the fact that it is sensitive to one-tenth of a milligramme.

In the matter of the estimation of sugar also much has been done in the later instruments to simplify and to facilitate the test without impairment of accuracy. While Fehling's solution is undoubtedly one of the best reagents for qualitative work, its application to quantitative analysis in the hands of the inexperienced is fraught with serious jeopardy to accurate work. When one remembers with what apparatus and under what conditions of light, etc., these estimations are often made in the surgery of the general practitioner, one can but dimly speculate upon the possibility of anything in the shape of a reliable result being forthcoming. Moreover, apart from the possibility of experimental error, there are actual fallacies attendant upon the use of Fehling's solution. These are due to the fact that other substances in the urine can reduce cupric oxide. The chief of these are uric

acid, creatinine, hippuric acid, lactose, glycuronic and glycosuric acids, and certain drugs. There is only one absolutely certain test for glucose—i. e., the fermentation test, glucose being the only fermentable substance ever found in urine. Much attention has lately been paid the improvement of the various forms of saccharometer—i. e., instruments for estimating the amount of sugar by the fermentation method. The latest instrument of this kind, which will be found to fulfill every requirement in practice, is a graduated U-tube in which evolution of carbon dioxide by fermentation causes displacement of a column of mercury. It is possible to register the sugar contents in twentieths per cent. up to 1.5 per cent. and thence in halves per cent. to 10 per cent. The instrument is cheap, simple, and effective, and will doubtless supersede all other forms of saccharometer.

For the estimation of urea, no better piece of apparatus has been devised than that of Doremus. The improved form of this excellent instrument renders possible the urea determination in 1 cubic centimetre of urine within the space of a few minutes. The only reagents required to be kept at hand are a 40 per cent. solution of sodium hydrate and measured quantities of bromine contained in bulbs.

The estimation of these three—albumin, sugar, and urea—represents the extent to which urine is chemically examined for clinical purposes by anyone not in possession of a clinical laboratory. It has hitherto been impracticable, for instance, for the average practitioner to determine the contents in a given specimen of urine of so important a constituent as uric acid. He takes up his text-book in search of an available method and finds himself duly instructed in the details of such procedure as that of Hopkins. What he is not told is that ready to hand at a minute's notice, is a reliable instrument such as that of Ruhemann, by means of which the uric acid mystery may be solved within the space of half an hour or less. I do not think this method is very generally known in this country; its importance certainly entitles it to some description here. The principle involved is the fixation of free iodine by uric acid. The apparatus consists of a graduated tube and two reagents—(1) an iodo-iodide solution resembling Gram's solution in composition, and (2) bisulphide of carbon. The latter is poured into the tube up to the mark indicated; the iodine solution is added to a further mark. Diluted urine is then slowly added until the bisulphide of carbon, which from a deep violet acquired on the first ad-

dition of urine, passes through various depths of pink and finally becomes snow-white. This denotes the completion of the reaction, and the level of the mixture in the tube is read off on a graduated scale provided and indicates in values *pro mille* the amount of uric acid present in the diluted urine. The possibilities of this simple test in private practice are too important to be overlooked. The apparatus is quite inexpensive and its utility will well repay the outlay.

Another simple quantitative test is that for phosphates. This is done by a reliable little instrument called a "phosphatometer." It consists of a graduated tube and one reagent. The tube is so graduated that all that is necessary is to add the reagent to a given quantity of urine, and read off the level of the resultant precipitated phosphates on the scale provided. The reagent in this case consists of an ammonio-magnesium mixture composed as follows: magnesium chloride, 5 grammes; ammonium chloride, 7 grammes; strong solution of ammonia, 35 grammes; and distilled water, 65 grammes. The phosphates are precipitated by this mixture in the form of the ammonio-magnesium variety. A table is provided with the instrument for calculating percentages.

Quantitative tests as simple and as effective as the foregoing exist also for the determination of indican and total acidity or alkalinity. Space forbids their detailed description here, but in their respective channels they may be made to figure usefully in a well-arranged scheme of accurate diagnosis.

Passing now from the subject of urine to that of gastric juice, we find that in this field also chemical industry has been active in providing the home worker with similar means of diagnosing conditions of complexity which baffle other sources of information. The modern medical man is taught the importance of the role played by hydrochloric acid in gastric digestion, that its diminution or absence suggests one chain of thought, its hypersecretion another chain. Of what use is this knowledge to him in the absence of means of ascertaining what condition he is dealing with? In the present state of his resources it is only by prolonged observation accompanied by such empirical treatment with acids and alkalies that he may at length arrive at a rough estimate of the amount of hydrochloric acid present in the stomach of his patient. Wherein does the remedy lie? Clearly in submitting the gastric juice itself to chemical analysis whereby its acidity may be determined. Here, again, his outfit has been woefully lacking in provi-

sion for this important step towards benefiting a very large class of his *clientele*.

An instrument is now to be had whereby may be made three important quantitative tests: estimation of free hydrochloric acid, total acidity, and combined hydrochloric acid. These results are all obtained by the use of a graduated tube devised by Gunzberg, and, together with a few physical tests very easily performed, give all the information which is required on the subject. The instrument, termed an "acidimeter," is a simple graduated tube, and in using it two reagents are required: (1) decinormal solution of sodium hydrate, and (2) an indicator consisting of phenolphthalein and dimethyl-amido-azobenzol (one grm. of each) and 70 per cent. alcohol 100 cubic centimetres. Gastric juice is obtained by means of a syphon tube after a test meal and filtered through ordinary filter paper. This is poured into the tube to a given mark and the addition of two drops of the indicator solution gives a bright cherry-red colour. The decinormal soda is now added drop by drop until the colour of the fluid has changed from red to a distinct canary-yellow. The level is then read off on a scale (marked red) which indicates without any calculation the percentage of free hydrochloric acid present. This being noted down, the test is continued with the same solution by dropping in more sodium hydrate until the fluid has become permanently red. The level as indicated by another scale (marked yellow) gives the total acidity. Should there be no free hydrochloric acid present, a dirty yellow colour will result on adding the indicator. To find the amount of combined hydrochloric acid, all that is necessary is to repeat the previous test, using as an indicator a one per cent. aqueous solution of sodium alizarin-sulphonic acid. The decinormal soda is added drop by drop as before until a deep violet colour appears. The yellow figures subtracted from the previous determined total hydrochloric acid is equal to the sum of the free and combined acid.

Thus, it will be seen that information of the utmost importance from a diagnostic point of view may be gained in a comparatively short space of time and much experimental therapy done away with. Moreover, the assistance rendered by such instruments as these goes far towards placing the medicine of the general practitioner upon the same firm basis as that of the hospital or clinic to which too often he is compelled to refer his more complex cases.



Editorial.

W. H. BELL, M. D., Editor.

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To Our Patrons.

In this issue of the journal, which is the last number of the twentieth volume, we give an index to the volume. We take this opportunity to express our thanks to those who have contributed to the journal during the past year. We appreciate also the many kind words we have had from our subscribers and patrons concerning our efforts to give them a good journal. And while we may not have accomplished all that we would have liked during the year, yet we feel that with the aid of our friends our efforts toward high class journalism have not been altogether in vain. We ask the continued co-operation and support of the doctors of Alabama, assuring them that we will continue our efforts for greater achievements.

To our subscribers, who have neglected to send us the small amount of their subscription, and who have failed to renew for another year, we desire to say that we will appreciate a prompt remittance and an early renewal.

Management of Pregnancy.

In this section of the country there has been too great a tendency to give little attention to the management of the pregnant woman. In fact, in many cases the doctor has known nothing of the pregnancy until called hurriedly to deliver the woman in her confinement. To the fact that pregnancy is a physiological process in a great majority of cases, and the mode of living of the woman, particularly in the rural districts of our State, may be attributed the good results that the average country practitioner has had in his obstetric work. When we recall the many changes which occur in the maternal organism during the process of pregnancy, and that the dividing line between health and disease is so ill defined, and that derangements which in the non-pregnant condition are unimportant, may in the pregnant state give rise to pathological conditions which may seriously affect the health of the mother and child, we realize the importance of a careful watching of the conditions during this period. It is therefore necessary to keep pregnant patients under strict supervision and be constantly on the alert for the appearance of untoward symptoms.

Our patrons should be instructed that it is important to inform the physician of the existence of pregnancy early in the term. Under ordinary circumstances during the early months the patient may be allowed to lead her usual life without restriction. She should be encouraged to take exercise in the open air, limited to walking; eat regularly, but only of plain food, and keep regular and early hours.

In slight degrees of pelvic contraction, or in patients who have previously given birth to excessively heavy children, a restricted diet as recommended by Prochownik may be advisable during the last two or three months. Contrary to previous ideas, this idea eliminates as far as possible all fluids and carbohydrates, allowing proteids and green vegetables in limited quantities. Attention should be given to keeping the bowels and kidneys in good condition and to the wearing of loose and comfortable clothing. About six weeks before the date of confinement a physical examination, including the pelvic measurements, should be made. Beginning about this time the nipples should be painted over with a solution of tannic acid in glycerine every night, and at the same time be manipulated and drawn out for a few minutes at a time.

Vomiting, when it exists, needs careful investigation. When slight and limited to the morning, no treatment is necessary beyond some care in diet and perhaps some of the simple tonics. When vomiting is marked and persistent, an attempt should always be made to discover its origin, whether it is neurotic, reflex or toxemic. The neurotic is the most frequent and ordinary type, and may be distinguished by the exclusion of reflex irritation and toxemia. Regulation of diet and removal of constipation, with the administration of five-grain doses of cerium oxalate will ordinarily improve the condition. In some cases pepsin, bismuth, or small doses of cocaine will produce excellent results. If vomiting is persistent, a pelvic examination and an examination of the urine should always be made.

The reflex type of vomiting is due to some pathological conditions of the pelvic organs, a backward displacement of the uterus being the most common. Correction of this condition and holding the uterus by a suitable pessary is followed by a prompt cure.

If no pathological condition can be found on examination, it is probably toxemic, and the condition is properly called pernicious vomiting. This often begins as an ordinary neurotic or hysterical vomiting, and the patient may become toxemic secondarily.

The recent work of Stone, Ewing and Williams has marked the most important advances in our knowledge of the management of pregnancy. Until then we knew very little about the pathology of pregnancy and what pernicious vomiting really meant. The diagnosis is made by the results of a chemical examination of a twenty-four-hour specimen of urine. Unfortunately the examination requires the service of a trained chemist and involves some delay. The presence of albumin and casts is significant of renal irritation only. In toxemia of pregnancy, there is a profound disturbance of metabolism, indicated by a diminution of the total nitrogen. Williams has shown that the "ammonia coefficient in the first half of pregnancy varies between four and five per cent., but in toxemic vomiting it rises to ten, twenty or even thirty per cent."

As soon as the diagnosis of toxemic vomiting is made the uterus should be emptied. It is better to interfere too early than too late. The urine should be examined at regular intervals, once a month for

the first six months, and at least twice a month, and preferably every week, during the last three months of pregnancy. It should be examined not only for the presence of albumin and sugar, but also microscopically. If albumin is detected or the patient present symptoms of toxemia, a twenty-four-hour specimen should be saved and sent to a competent chemist for the determination of the total amount of nitrogen and of the nitrogenous partition.

The patient should be instructed to notify her physician on the occurrence of any of the following symptoms: a scanty flow of urine, persistent headache, disturbances of vision, swelling of the feet and face, any loss of blood, and persistent constipation. A physician does not perform his duty to his patient who does not make it a rule to personally see her at frequent intervals during the entire period of pregnancy.

Officers of the Southern Medical Association for 1909.

At the recent meeting of the Southern Medical Association held in Atlanta, Ga., on the 10th, 11th and 12th insts., the following officers were elected:

President—Dr. Giles C. Savage, Nashville, Tenn.

Vice-Presidents—Dr. J. C. Olmstead, Atlanta, Ga.; Dr. J. M. Jackson, Jr., Miami, Fla.; Dr. T. A. Casey, Birmingham, Ala.; Dr. Chas. M. Murry, Ripley, Miss.; Dr. George Dock, New Orleans, La.; Dr. E. C. Ellett, Memphis, Tenn.

Counsellors—Dr. Michael Hoke, Atlanta, Ga.; Dr. John McDairmid, DeLand, Fla.; Dr. B. L. Wyman, Birmingham, Ala.; Dr. W. W. Crawford, Hattiesburg, Miss.; Dr. W. W. Butterworth, New Orleans, La.; Dr. G. R. West, Chattanooga, Tenn.

Section on Medicine—Dr. J. A. Witherspoon, chairman, Nashville, Tenn.; Dr. H. E. Mitchell, secretary, Birmingham, Ala.

Section on Surgery—Dr. F. G. DuBose, Selma, Ala., chairman; Dr. Jere L. Crook, Jackson, Tenn., secretary.

Section on Ophthalmology—Dr. A. W. Stirling, chairman, Atlanta, Ga.; Dr. A. B. Harris, secretary, Birmingham, Ala.

Secretary-treasurer—Dr. Oscar Dowling, Shreveport, La.

The next meeting will be held in New Orleans, La., Nov. 9, 10, 11, 1909.

Officers of the Mississippi Valley Medical Association.

At the last meeting of the Mississippi Valley Medical Association the following officers were elected for the ensuing year:

Dr. J. A. Witherspoon, Nashville, Tenn., president; Dr. Louis Frank, Louisville, Ky., first vice-president; Dr. Albert E. Sterne, Indianapolis, Ind., second vice-president; Dr. S. C. Stanton, Chicago, Ills., treasurer; Dr. Henry Enos Tuley, Louisville, Ky., secretary.

Army Medical Corps Examinations.

The Surgeon General of the army announces that the first of the preliminary examinations for the appointment of first lieutenants in the army medical corps for the year 1909 will be held on January 11, 1909, at points to be hereafter designated.

Full information concerning the examination can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in the possession of the Adjutant General on or before Dec. 10, 1908. Early attention is therefore enjoined upon all intending applicants. There are at present fifty-seven vacancies in the medical corps of the army.

Treasury Department,
Bureau of Public health and Marine Hospital Service,
Washington, D. C., November 5, 1908.

A board of commissioned medical officers will be convened to meet at the Bureau of Public Health and Marine-Hospital Service, 3 B street, SE., Washington, D. C., Monday, Jan. 11, 1909, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service.

Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: 1, physical; 2, oral; 3, written; 4, clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination in the various branches of medicine, surgery and hygiene.

The oral examination includes objects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital, and, when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade.

Assistant surgeons receive \$1,600, passed assistant surgeons \$2,000, and surgeons \$2,500 a year. Officers are entitled to furnish quarters for themselves and their families, or, at stations where quarters can not be provided, they receive commutation at the rate of thirty, forty and fifty dollars per month, according to grade.

All grades above that of assistant surgeon receive longevity pay, 10 per cent in addition to the regular salary for every five years' service up to forty per cent after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address "Surgeon General, Public Health and Marine Hospital Service, Washington, D. C."

Dr. Luther Gwaltney McCollum.

Just as our last forms go to press we are saddened indeed by the death of our young friend and confrere of this city, Dr. L. G. McCollum, after an illness of six weeks. He breathed his last at 5:30 a. m., November 24th. He was twenty-six years of age, having been born April 6, 1882, at Marion Junction, Ala. During his three years' residence in this city he had built up a good practice, and numbered his friends by his acquaintances. He graduated in Pharmacy at the Medical College of Alabama in Mobile, and in Medicine at the University of Maryland at Baltimore. He was a member of the Jefferson County Medical Society, and will be sadly missed by his professional friends and associates. His brother, Dr. E. P. McCollum, of Greensboro, Ala., has been with him during his illness. To him and other relatives we extend our heart-felt sympathies, and we mourn with them over the loss of a very dear friend.

Personal Notes.

Dr. J. R. Pow, of Maylene, Ala., called to see us while in the city on the 9th.

Dr. W. A. Weed, of Republic, Ala., was in the city recently on business.

Dr. J. S. McLester, of this city, who has spent the last year in Europe, has returned.

Dr. H. T. McGehee, of Morris, Ala., was in Birmingham on business a few days ago.

Dr. C. M. Rudolph, formerly of Tuscaloosa, Ala., has recently located in Birmingham.

Dr. Neal Sellers, of Mobile, Ala., and Miss Nell Brown, of this city, were married at the home of the bride, 518 Princeton, Ave., on the 10th inst.

Dr. D. L. Wilkinson, of Montevallo, Ala., physician for the Girls' Industrial School, passed through Birmingham on his way to attend the meeting of the Southern Medical Association in Atlanta on the 8th.

Dr. W. J. Butler, of Chicago, spent a few days in Birmingham the first of the month visiting friends. On the 6th inst., at 8 p. m., he delivered a most interesting address before a joint meeting of the Birmingham Medical Library Association and the Jefferson County Medical Society on "Serum Diagnosis of Syphilis."

The members of the Jefferson County Medical Society enjoyed another treat on Monday evening, the 16th inst., a paper from Dr. Chas. H. Peck, of New York, on a "Report of Some Gall Bladder Operations." Dr. Peck is spending the week with his friend, Dr. Earl Drennen, of this city on a hunting expedition in Greene county, in this State.

THE PERSONAL FACTOR IN DISEASE.

Beverley Robinson of New York believes that the personal equation enters into the treatment of patients much more now than formerly. All people have their peculiarities and idiosyncrasies and these must be sought out and reckoned with in the treatment of disease. A wise, judicious empiricism in the use of drugs and the treatment of disease is allowable and desirable.—*Medical Record*, October 17, 1908.

Obituary.

RESOLUTIONS ON THE DEATH OF DR. ALFRED F. GRIGGS.

Whereas, The members of Jefferson County Medical Society have heard with sincere regret the sad announcement of the death of Alfred F. Griggs, a former member of this society, to whom we gave a few years ago a hearty and prayerful God-speed on his quest for health; and

Whereas, During his membership in this society, Dr. Griggs was conspicuous for his ethical bearing, his ability, and his professional attainments, and by these traits and by his gentle manner had won the lasting esteem and the affection of the members of this society;

Therefore be it resolved, That in the death of Dr. Griggs the medical profession has sustained the loss of a gifted and scholarly practitioner, society, a good and upright citizen, his associates, a lovable companion.

Resolved, That these resolutions be spread upon the minutes of this society, and that the secretary be hereby instructed to send a copy to the bereaved wife and son, that they may know our sympathy and that they may know also that the husband and father shall ever hold in our hearts the high place which was won by many noble qualities.

J. M. Lowery,
J. Ross Snyder,
J. M. Mason,
Committee.

DR. SHIRLEY BRAGG.

Dr. Shirley Bragg, of Montgomery, Ala., State jail inspector, was found dead in his room on October 29 from a self-inflicted pistol shot. His act was engendered by despondency caused by suffering from an incurable disease, and was, from all indications, committed in a spontaneous fit of gloom. He had been for months in a condition of physical breakdown, from extreme nervous and organic disease, and had been under the treatment of a physician.

Dr. Bragg was born near Lowndesboro, Ala., on November 3, 1853. He was the son of Mr. John Bragg, who was for many years prominent

in Alabama public life, and was the nephew of General Braxton Bragg, of Civil War fame. He was educated at Spring Hill College, Mobile, Ala., and at St. Louis University, St. Louis, Mo. Later he received a diploma from the Medical Department of the University of Alabama, Mobile. Dr. Bragg was a man well fitted for his profession. Since 1901 he served in the capacity of Inspector of the Convict Board of the State of Alabama, being elected president of the board in 1905. Prior to 1901 he was never an incumbent of public office, having been a practitioner of medicine in Montgomery since 1896. Prior to that time he practiced in Lowndes county.

THE RATIONAL TREATMENT OF SPLANCHNOPTOSIS.

J. Madison Taylor of Philadelphia, Pa., gives as casual agencies in producing splanchnoptosis, fatigability, all conditions that result from lowered vitality, exhaustion states, interference with the caliber of the blood-vessels, etc. The causes lie far back in the origins of growth and development. A neurasthenic tendency is at the root of them all. They may be hereditary or acquired. The usually blamed factors, such as pregnancy and digestive troubles, are simply efficient instrumental, not primary, causes. The primary defects, local or constitutional, must be corrected in order to obtain a cure. We must overcome loss of nutritive vigor in the vasomotor centers of the cord, impairment of nutrition in the internal structures, and relative weakness of the abdominal muscles. Intestinal putrefaction and constipation must be overcome by regulated diet. Replacement of the organs must be followed by massage by an operator who has been specially instructed by the physician. The normal supports must be stimulated and educated, and lymph stasis and vascular congestion must be overcome. Systematic breathing exercises will develop the diaphragm and abdominal muscles. They should be combined with exercises promoting flexibility of all muscles and joints. In the line of artificial supports it is necessary to have an apparatus that shall keep the pelvis in a horizontal, not a tilted, position. It must not press upon or weaken the normal supports, or the vessels, but must take its point of support from the hips and thighs below the abdomen. Dr. Longstreth's belt and corset is described and recommended as the best form of support to fulfill these requirements.—*Medical Record*, October 17, 1908.

Book Notices.

General Surgery. A Presentation of the Scientific Principles Upon Which the Practice of Modern Surgery is Based. By Ehrich Lexer, M. D., Prof. Surgery, University of Konigs. American Edition, edited by Arthur Dean Bevan, M. D., Prof. and Head of the Department of Surgery Rush Medical College in Affiliation with the University of Chicago. An Authorized Translation of the Second German Edition by Dean Lewis, M. D., Ass't Prof. Surgery, Rush Medical College in affiliation with the University of Chicago. With four hundred and forty-nine illustrations in the text, partly in color, and two colored plates. D Appleton and Company. New York and London. 1908.

This work is a translation by Dr. Lewis of the text-book on General Surgery written by Prof. Lexer, and edited by Dr. Bevan, and presents the present status of the subject of general surgery in a more thorough and complete way, perhaps, than any other text-book. It is a presentation of the scientific principles upon which the practice of modern surgery is based. Practitioners who are interested in surgery will find great interest and profit in studying this book. The advances in the science of surgery in the last few years have been so rapid and so great it has been difficult for the surgeon engaged in active practice to keep abreast of the increasing knowledge. These modern views and advances have been presented by Prof. Lexer in a clear, concise and practical way. The translator and editor have not hesitated to make such additions and changes as seemed to them desirable to make the book more complete. An excellent chapter on Blastomycosis written by Dr. Oliver Ormsby has been added. Also those by Dr. Rosenow on blood examinations in surgery, the subject of opsonius and the Wright vaccination treatment, an abstract of Criel's recent work on the direct trans-fusion of blood form a distinct addition.

Genito-Urinary Diseases and Syphilis. By Edgar G. Ballenger, M.D. Lecturer on Genito-Urinary Diseases, Syphilis and Urinalysis, Atlanta School of Medicine; Editor Journal-Record of Medicine; Genito-Urinary Surgeon to Presbyterian Hospital, Atlanta, Ga. With 86 Illustrations. 276 pages. Practical, Concise. Price \$3.00, carrying charges Prepaid. E. W. Allen & Co., Publishers, Atlanta, Ga.

This book is a brief treatise for the medical student, whose time and knowledge forbid his thorough understanding of the large works written for experienced practitioners and specialists. It will also prove of value to the practitioner who desires a concise work on this subject. The author has well carried out his aim in presenting fundamental principles, and at the same time going into sufficient detail when considering matter of prime importance. It is of handy size and neatly bound and we commend it most heartily.

High-Frequency Currents. By Frederick Finch Strong, M. D., Instructor in Electro-Therapeutics at Tuft's College Medical School, Boston. With 183 illustrations in the Text. New York, Rebman Company, 1123 Broadway. Cloth, \$3.00.

The discovery and application of High-Frequency Currents has resulted mainly from the work of two American scientists, Tesla and Thomson. The former recognized their therapeutic possibilities. To d'Arsonval and Oudin is ascribed largely the development of these currents for the treatment of disease.

The author of this book for the past decade has been continuously engaged in clinical and laboratory study and has developed a system of technic for the therapeutic application of the Tesla currents on distinctly different lines, and which possess a wider field of usefulness, from those developed by d'Arsonval and Oudin. He has treated hundreds of cases and recorded facts which are given to the profession for the first time in this volume. The book will be of peculiar interest to those especially engaged in this line of work; and to all students and practitioners it is well worth the price. The mechanical get up of the book is of excellent character.

The Cure of Rupture by Paraffin Injections. By Charles C. Miller, M. D. Comprising a description of a method of treatment destined to occupy an important place as a cure for rupture owing to the extreme simplicity of the technic and its advantages from an economic standpoint. Published by the author, 70 Sate St., Chicago. Prepaid \$1.00.

In this little work the author gives very simple and plain directions for the treatment of hernia by means of paraffin injections. Some of the advantages claimed for this treatment are its use without an anesthetic; its applicability in the physician's office; the simplicity of its use without trained assistants, and within a very few minutes. The author states that he expects vehement protests from surgeons against the use of paraffin injections. He makes a report of ten cases.

Diseases of the Skin. By A. H. Ohmann-Dumesnil, A. M., M. E., M. D., Ph. D., etc., formerly Prof. of Dermatology and Syphology in the St. Louis College for Medical Practitioners; the St. Louis College of Physicians and Surgeons; the Marion-Sims College of Medicine; Member of the St. Louis Medical Society, of the Missouri State Medical Association, of the American Medical Association, of the 1st, 2nd, 3rd, 4th, 5th and 6th International Dermatological Congress, etc. Third edition thoroughly revised and enlarged; 140 original illustrations. St. Louis, C. V. Mosby Medical Book and Pub. Co. 1908.

The author has well carried out his intention to make of this book a practical guide to the easy recognition of skin diseases, as well as to their successful treatment. He has made no attempt to write an elaborate work, but he gives in a clear, concise manner just such information as is most desired by medical students and general practitioners. He has given most attention to those diseases of the skin which are of more common daily occurrence. Hence it is a book of practical service to both student and general practitioner. This edition is revised and enlarged, though it is of convenient size and neatly bound.

BOOKS AND PAMPHLETS RECEIVED.

Report of Pathological Department of the Central Indiana Hospital for the Insane, located at Indianapolis, Ind.

Fourth Annual Report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. Feb. 1, 1906, to Feb. 1, 1907.

Physiognomy, Post-operative Treatment of Adenoid Patients, Deformity of the nose corrected by the use of Paraffin. By Bryan D. F. Sheedy, M. D., Adjunct Prof. of Rhinology and Laryngology Fordham Univ. Med. Col., Instructor in Diseases of the Upper Respiratory Tract N. Y. Post Grad. Med. School and Hospital, etc.

The Clinical Significance of Uterine Deviations. By Lucy Waite, B. A., M. D., Chicago, Ill.

The Present Pandemic of Plague. By Asst. Surgeon-General J. M. Eager, Washington, Gov. Print. Office, Treas. Dep't. 1908.

Hygienic Laboratory-Bulletin No. 44. May, 1908. Report No. 2 on the Origin and Prevalence of Typhoid Fever in the District of Columbia. By M. J. Rosenau, L. L. Lumsden and Joseph H. Kastle. Washington, Gov. Print. Office. 1908. Treas. Dep't.

Hygienic Laboratory—Bulletin No. 45. June, 1908. Further Studies Upon Anaphylaxis. By M. J. Rosenau and John F. Anderson. Washington, Gov. Print. Office. Treas. Dep't.

The Supposed Beneficial Effects of Ozone a Popular Medical Fallacy. By Theo. Wm. Shaefer, M. D., Kansas City, Mo. Reprint from Hygienic and Dietetic Gazette. July, 1908.

Cases from the practice Stewart L. McCurdy, M. D., Prof. Orthopaedic and Clinical Surgery, Prof. Anatomy and Oral Surgery, Univ. of Pittsburg, etc.

(1) *The X-Ray in Dermatology. Reprint from the American Journal of Surgery. May, 1908,*

(2) *Using the X-Ray Without Burning.* Reprint from Jour. A. M. A. March 28, 1908.

(3) *The Diagnosis and Treatment of Rheumatism and Allied Affections.* Reprint from the Jour. of Advanced Therapeutics. Aug. Sept. and Oct., 1906.

By Albert C. Geyser, M. D., New York. Instructor in Radiography and Radiotherapy at Cornell Uni. Med. Col., Lecturer in Radiotherapy and Radiography at the N. Y. Polyclinic.

(1) *The Long-Waisted Woman and her Movable Kidney.* Reprint from Med. Record, July 27, 1907.

(2) *Movable Kidney in the Genesis of Bile Duct Disease.* Reprint from N. Y. Med. Jour., Sept. 14, 1907.

By Ernest Gallant, M. D., New York.

Thought Sickness. By H. O. Hyatt, M. D., Goldsboro, N. C.

Tonsilitis—With Reports of some Rare Forms selected from recent Literature. Reprint from American Medicine, May, 1908. By R. O. Summes, M. D., Camden, Ala.

An Improved Technic for the Radical Cure of Cancer of the Rectum. Reprint from the American Jour. of Surg., Aug., 1908. By F. G. DuBose, M. D., Selma, Ala.

Pellagra. A Precis. By Passed Asst. Surgeon C. H. Lavinder, Washington, Gov. Print Office. 1908.

Tuberculosis in the United States. Prepared for the International Congress on Tuberculosis. Dep't of Commerce and Labor, Bureau of the Census. S. N. D. North, Director, Washington.

Bulletin of the Board of Health of Alabama, June-August, 1908.

Improvement and Deterioration. By J. T. Searcy, M. D., L. L. D., Tuscaloosa, Ala, Supt. of the Alabama Insane Hospital. Hospital Print.

THE DIAGNOSIS OF GASTRIC ULCER.

Dudley Roberts of Brooklyn, New York, says that the characteristic picture of gastric ulcer is rare. We must be able to diagnosticate it without the presence of all the symptoms. In the classical picture we have pain, sharp or burning, located just below the ensiform cartilage, appearing regularly from one-half to two hours after each meal, and absent when the stomach is empty. Exquisite tenderness located in the same area is present. Vomiting occurs in only 60 per cent. of cases. Hematemesis is not frequent, the blood more often recognized in the stools by blood tests. Pain may be absent for long periods. Diffuse pain speaks against pure ulcer. Sometimes pain occurs long after the meal and awakens the patient from sleep. Such pain comes from reflex pylorospasm when the last of the meal is passing from the stomach over the ulcer. Constant pain, or pain appearing before breakfast, is rarely due to ulcer. Tenderness is present early, but in later stages of chronic ulcers is often absent. Hyperchlorhydria is contributive evidence of ulcer. Hypersecretion is constant in ulcer. Repeated examinations of the stools for blood should be made.—*Medical Record*, October 17, 1908.

ABSCESS OF THE LUNG FROM ASCENDING INFECTION
FROM APPENDICITIS, WITH REPORT OF CASES.

J. N. Hall of Denver, Col., reports three cases of extensive cavity in the lung from ascending infection from an appendicitis. In some cases there is no direct communication with the appendix, but the abscess arises from embolism. Inflammatory adhesions occur between liver, diaphragm, and pleura in others, and the infection is propagated in this way into the lung. These liver and lung complications are more frequent in cases that run for a long time without operation, and fear of them should lead to prompt operation as soon as the appendicitis is recognized. The author gives histories of fifteen cases in which there were lung complications. The absence of the color of pus from amebic abscesses, and of a history of dysentery, with the presence of colon bacillus and the characteristic odor of the expectoration assist in recognizing the source of the lung infection. In all such cases the prognosis is grave.—*Medical Record*, October 17, 1908.

Miscellaneous Notes.

NEURILLA.

This is a valuable remedy for nervous patients, more especially for those female patients who are passing through the climacteric. It is a bitter tonic, creates appetite, build up the patient and at the same time quiets the nerve centers. Try it instead of some fashionable synthetic or coal tar dope. Dose, teaspoonful four times a day.

Where there is a burning sensation when urinating, sanmetto in teaspoonful doses three or four times a day usually gives relief. If the urine is alkaline ammonium benzoate in connection with sanmetto will prove helpful, and citrate of potash when the urine is acid.

CLIMATIC EFFECTS.

The winter weather is at hand and it is well known to what extent the cold will aggravate many female troubles. Physicians have used many preparations without having found one of them which gave satisfaction. Physicians trying Tyree's Antiseptic Powder will be satisfied that they have at last secured just the preparation they desired. Tyree's Antiseptic Powder can be used freely in any strength, at any time, and in any case. It is superior and preferable to the mercuric bichloride solution, because it is devoid of any element of danger. Its solubility is greater than that of bichloride of mercury tablets, and it does not erode delicate mucous membrane. The observant doctor will find that it makes a solution that may be thoroughly depended upon as a responsible and reliable antiseptic healing agent. It is scrupulously made, and its well balanced chemical adjustment has established its medical popularity. A trial package will be mailed free of charge to physicians if they will send their name and address to Mr. J. S. Tyree, Chemist, Washington, D. C.

In the wasting diseases, as well as in rickets, scrofula and marasmus it is of the greatest importance that a remedy be selected which will quickly check the pathological condition, and restore the organism to the normal without producing digestive or other functional disturbances.

Cod liver oil has always stood first in the category of remedies calculated to bring about this desirable result, but unfortunately its peculiar odor and taste are features which are quite often objectionable to patients. Hagee's cord, ext. ol. morrhuae comp, is an elegant preparation, containing all the essential therapeutic properties of cod liver oil combined with tissue building chemicals (hypophosphites of lime and soda) and aromatics, which renders it agreeable to the palate.—*Am. Jour. Dermatology.*

CHRONIC CONSTIPATION.

Every physician realizes that there are various and diverse causes for chronic constipation, and that no single remedy or combination of remedies will relieve every patient. A large proportion of cases, however, appear to be due to Hepatic Insufficiency and Biliary Stasis. The natural biliary fluid, when sufficient in quantity and thin enough to flow freely into the intestine, act as physiologic laxative or natural stimulant to peristalsis. *Per contra*, when the bile is not formed and secreted in sufficient quantity, or in its normal condition of fluidity, or when it is deficient in the natural bile acids, a more or less obstinate constipation is likely to result. In such cases, the rational remedy is one which encourages the liver to renewed activity, increases and liquefies the biliary flow, augments the proportion of bile acids in the bile, and thus normally regulates bowel movement.

CHOLOGESTIN efficiently exercises this desirable cholagogue action, as it supplies, in palatable and tolerable form, a sufficient dosage of the amorphous salt of the natural bile acid (glycocholic acid) to stimulate hepatic activity, and thus promote both bile and bowel drainage. The contained salicylate of sodium (from natural oil of wintergreen) reenforces the cholagogue action of the bile acid salt, and also exercises its well-known liquefying effect upon the biliary fluid. To produce appreciable results, Chologestin must be given regularly for some little time, as it is not an immediate laxative or cathartic.

Samples, formula and complete literature sent upon request to F. H. Strong Company, 58 Warren Street, New York.

NERVE DISEASES.

In a letter just received Dr. C. N. Udell, of Valparaiso, Ind., says of Daniel's Concentrated Tincture *Passiflora Incarnata*: "Some years ago I found *Passiflora* a valuable remedy in cases of nerve tension, insomnia and those cases bordering on insanity. The trouble has been to obtain a reliable preparation made from the green root. From my experience with your preparation I unqualifiedly pronounce it the ideal one giving to physicians a sedative that will not disappoint. I expect to use it wherever opportunity offers." It is the consensus of opinion among physicians who have employed Daniel's *Passiflora* that its value is unexcelled in hysteria, sleeplessness and kindred diseases. One practitioner reports that his patient had lost so much sleep that his condition bordered on insanity. *Passiflora* was used with the most beneficial results. A natural sleep was produced, the tension of the nervous system was relaxed and improvement began immediately. It is the true calmative agent because it leaves the system normal and healthful.

The average physician hesitates before prescribing cod liver oil in emulsion, not because he does not appreciate its value and importance as an nutrient- tonic and builder of tissues, but rather, because he is confronted by the dilemma—how to exhibit it without causing with his patient, the familiar intestinal upsets so frequently accompanying its use.

We believe that the physician will be pleased to learn of the existence of one cod liver oil emulsion that has been designed to help him in this—dilemma, i. e., *Emulsion Olet Morrhuæ* (Cloftlin). No preparation could exist and achieve the success this product has, solely on its platform of open laboratory and ethical correctness. It is what it does in the hands of the physician, that accounts for the measure of success it enjoys.

Judging from the product and the descriptive matter placed in the hands of all bona fide physicians on request, EMULSION CLOFTLIN has kept just a little ahead of the claims made for it by its manufacturers. The advantage that this product has over the average emulsion is its "great palatability," and freedom from rancidity, that "bug-bear" of all cod liver oil products. It is said to most effectively overcome the main drawbacks—lack of palatability, to a wider and more successful exhibition of this valuable nutrient.

Physicians desiring to prove for themselves the truth of the foregoing, will, we are certain, receive liberal samples, ample to make a good trial of its palatability, upon application to The Cloftlin Chemical Co., New York.

POST HEMORRHAGIC ANEMIA.

The anemia which follows the hemorrhage of trauma, gastric or intestinal ulcers, severe epistaxis, child birth, profuse menstruation or hemorrhoids presents a clinical picture that is so well known that it requires no description.

Examination of the blood immediately after a severe hemorrhage usually shows no apparent change in its number of corpuscles, for the portion lost withdrew the blood as a whole, and the portion remaining in the body, while decreased in volume, will be found to contain a normal ratio of the fluid and cells. Shortly after a hemorrhage, however, the tissues of the body give up large quantities of fluid to restore the necessary volume of the blood and a condition of true hydremia ensues. Examination of the blood three or four hours after a severe hemorrhage, therefore, shows a very marked oligocythemia. Reconstruction must now take place and the response to the bodily demand is sometimes remarkably prompt, but in most instances it is a hard up-hill fight. This is to be expected, for the disproportion between the cells and the fluid elements of the blood, and the essential depression of all vital functions, makes recuperation a difficult process at best.

Much can be done, however, to assist the body in its efforts to restore normal conditions. The first and most essential requirement is absolute rest in a prone position. In some instances, it may be necessary for a few days to have the couch or bed tilted so that the patient's head shall be lower than the feet. Sudden movements or a sudden rising to an upright posture must be strictly interdicted as these are always liable to produce a fatal syncope. Following severe hemorrhage, the blood pressure is always lowered, and even if a certain degree of tension is apparently restored, it is very unstable, and may be lost instantly with all of the resulting dangers on the heart and central nervous system.

Another precaution to be taken is to frequently change the patient's posture from one side to the other. The hydremic state of the blood, and

the loss of blood tension disposes to gravitation oedema in the lungs and other organs, and the simple procedure of changing the patient's position often avoids annoying and serious complications.

Considerable quantities of water are always necessary after hemorrhage, but it should never be given in large amounts at any one time. Two or three tablespoonsfuls at a time by the mouth every few minutes is much more beneficial than to allow a patient to drink to satiation. Excessive thirst is always soon controlled by small enemata (one pint) of saline solution, as warm as can be borne, repeated every three or four hours. These also serve admirably to very materially raise arterial tension. It is no uncommon thing to observe complete anuria for even twenty-four hours after severe hemorrhage, but the warm saline enemata soon correct this condition.

Feeding is one of the most important details in post-hemorrhagic treatment. Liquid food should be used in preference to solids for obvious reasons, and may consist of milk, beef extracts, white of eggs, etc. Small quantities should be given at short intervals, as it must be remembered that the digestive function is always more or less depressed and can only do a portion of its usual work. A good reliable hematic is early necessary, one that can materially hasten hematosis without endangering the digestive and assimilative functions in any way, shape, or fashion. Pepto-Mangan (Gude) is one of the most dependable remedies of this class and its hematopoietic properties are well-known. Under its use the cellular elements of the blood are rapidly increased, and the whole physical condition is greatly improved. The various organs resume their functions and the distressing and dangerous efforts of hemorrhage are safely and properly overcome.

Prof. Irving Fisher, the eminent political economist of Yale University, who in one of his papers before the recent International Tuberculosis Congress in Washington declared that consumption costs the people of the United States more than a billion dollars a year, is preparing an exhaustive report for the National Conservation Commission, which will contain not only these figures but similar data on the economic loss to the country from all other preventable diseases.

Prof. Fisher is a member of the National Conservation Commission and for many years has been carrying on studies along these lines.

The Commission received letters from physicians all over the country urging it to consider the bearing of public health on the economic efficiency of the nation in its efforts to ascertain the resources of the country.

The Commission from the beginning has contemplated reports on the economic aspects of several phases of the Conservation movement which affect the duration and effectiveness of human life, but Prof. Fisher has undertaken to prepare a comprehensive statement of the whole subject of the relations of public health to the general field of Conservation, and especially as to the waste from preventable diseases and unnecessary deaths.

Dr. Fisher is professor of political economy at Yale University and chairman of the "Committee of One Hundred" of the American Association for the Advancement of Science, which has for a long time been carrying on propaganda for the increase of national health through the elimination of preventable diseases. This Committee of One Hundred is composed of physicians and men engaged in active sociological work in every part of the country, and the results of their investigations and experience are all available to Dr. Fisher, so that his report ought to be the most thorough-going and complete summary of the situation ever made.

At the Tuberculosis Congress, Prof. Fisher declared that 138,000 persons die of consumption every year. The cost of medical attendance and the loss of earnings before death average at least \$2,400, he said, while if to this is added the money that might have been earned with health, the total loss in each case is about \$8,000. He pointed out, also, that the disease usually attacks young men and women just at the time when they are beginning to earn money and cuts off their earning power for about three years on an average, before they die.

This subject of the economic value to the country of a general raising of the average health came up in the Governors' Conference at the White House in May. Dr. George M. Kober in his speech on the "Conservation of Life and Health by Improved Water Supply" at the Conference presented figures which showed that the decrease in the "vital assets" of the country through typhoid fever in a single year is more than \$350,000,000. Typhoid is spread by polluted water largely so that the death rate from this disease can be directly reduced by

the purification of city drinking water. Dr. Kober quoted statistics to show that the increased value of the water to the city of Albany, where the typhoid fever rate was reduced from 104 in 100,000 to 20 by an efficient filtration plant, amounts to \$475,000 a year, of which \$350,000 may be considered a real increase to the vital assets of the city. Census bureau figures show that the average annual death rate from typhoid in cities with contaminated water supplies was reduced from 69.4 per 100,000 to 19.8 by the substitution of pure supplies.

Dr. Kober cited estimates showing that the average length of human life in the sixteenth century was between 18 and 20 years, and that at the close of the eighteenth century it was a little more than 30, while today it is between 38 and 40; indeed, the span of life since 1880 has been lengthened about six years.

AN ADVANCED ETHICAL PLATFORM.

Just at this time, when the great political parties are referring to the platform upon which their respective candidates stand, it is perhaps permissible for the makers of Chologestin to call the attention of the physician to the advanced "ethical" platform they have adopted in the introduction and presentation of their product to the medical profession. Chologestin, in addition to its therapeutic merits, deserves the consideration of the physician because: (1) It has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. (See New and Non-Official Remedies, 3d edition, p. 32.) (2) Open formula, freely published. (3) No name blown in the bottle. (4) No distinctive shape or style of bottle. (5) No cap or seal on cork. (6) No names of diseases or therapeutic indications on the label. (7) No back label of any kind. (8) No circular surrounding the bottle. (9) No gratuitous information of any kind for the enlightenment or instruction of the patient. Chologestin is, therefore, strictly and exclusively and "ethical" prescription product and none of the objections urged against proprietary preparations can possibly be raised in the case of the product referred to. The advertising matter issued by the makers is dignified, conservative and devoid of exaggerated or misleading statements and the preparation is not only distinctly efficient in its field (a digestive cholagogue), but meets every possible ethical

requirement that can be fairly demanded by the most ultra-ethical physician. Samples and literature descriptive of Chologestin may be had from the manufacturers, F. H. Strong Co., 58 Warren St., New York.

The twenty-second annual session of the N. O. Polyclinic opened on November 2 with a larger class than ever before, and the indications are for a successful term.

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DARWINISM AND DIABETES.

R. G. Eccles of Brooklyn, N. Y., believes that the theory of the microbic origin of diabetes explains more facts with reference to the disease than any other theory. No other corresponds so well to the known distribution of the disease. A brief in the workings of natural selection renders it impossible to consider that such selection has chosen peculiarities that would be unfavorable to the individual, hence we cannot believe that this disease is hereditary. Heredity gives us a heritage of health-protecting appliances. In seeking for the etiological factor of diabetes we must answer many questions, such as why the apparent waste of sugar, why diabetics are users of large amounts of proteids, why extirpation of the duodenum produces as severe diabetes as removal of the pancreas, etc. No theory would seem to fit the facts of diabetes except a microbic one. Bacteria would reach the circulation by way of the liver and the portal circulation, where sugar is stored up. There would be a state of irritation of the liver. As the muscles also are centers of sugar supply, the organisms would form sources of irritation there also. Any condition being present that lowers the vital forces so as to permit the chemotactic power of the bacilli to act and carry them into the circulation to the liver, we have all the necessary conditions for transient glycosuria. The most ubiquitous of organisms in man is the colon bacillus. It exists in the intestine and may pass through its uninjured wall to the Blood. In action there is a striking analogy between this bacillus and that of typhoid fever. All these considerations bear on the microbic origin of the disease.—*Medical Record*, August 8, 1908.

